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WEAVING WITHOUT LOOMS
Throughout the world at this time, great interest is being shown in the art of weaving. Teachers, Occupational Therapy workers, home weavers, hobbylsts and club workers, all realize that its influence is a constructive one from every angle. It awakens latent telent in art through its use of color and desiga. It proFides training in coordination, muscular control, accuracy and rhythm. It gives one a new insigit into the origin and value of textiles the world over.It also proves an investment,for it teaches all who weave the choice of durable and beautiful fabrics for home and attire. It is a craft, that induces health and happiness where used, enriching the worker with the attainment of both poise and confidence. It proFides home or communty with group projects of fascinating interest.

Weaving is all of this and much more, for it produces articles of


The fact that one needs equipment for weaving has sometimes proved a deterrent from its parm ticipation. However,mbile one does need a means of stretching the warp this does notrequite the purs chase of a large floor loom, but rather the use of any device by means of which one can inter. lace threads to make cloth.

Primitive peoples in all ages have woven use ful and beautiful thinge with little or no equip ment. We may duplicate their efforts today. In fact, to engage in the simpler weaving typer helps one understand weaving principles.

To give the crafteman an incight into the poer sibilities of simple dovices, we are devoting this issue of Craft Creation to a lecture on this subject by Forence ․ House, D1 reo tor of Teaving, Teachers College, Columbia Univo sity, Tew Jork CLty.


Where is she who cannot use another belt made especially to suit a certain costume or to add color and distinction to some favor ite dressl There are many kinds colors and designs of belts possible to make and one experiences great fun in making them

Belt making can of ten be done without loons for with only one $s$ fingers and some thread one can still make belts There are many com binations of color and width of stripes After developing sufficient skill with the fingers one can go on from a Diagonal design to a Dia nond or "Chevron", which is really two diagozals woven opposte each other. Front this One can advance to the "Arrowhead" and "Ceinture Flechee" in which the design is cirought about by a certain twist of the threads Jnis tech nique comes to us from our own Aneriran Indi ans and from the French Canadians living near montral. A hundred years ago in a lit+le ril. lage called Assomption the entire living of the natives was by the making of these Deauti ful sashes worn by the men They are known as "Assomption Sashes" today andbring as much as $\$ 5000$ when they can de found

A whole new fiela ogens up to the relt wearer in the so called Mexican Braided Belt" al though this tecnnique is also employed in Guat emala and Sweden Differen ${ }^{+}$designs are made not only by the placing of the colors $a^{t}$ the start out also by the dirertion of the cross whether alternating or all. in one airertion The Hopj Tndians do an in+eresting wedding de sign or a wedding sash in this techoidue in a firm pleasing texture

Square knotting or "Nacrame offers many possinili+ies for maing Del's It requires a hard twisted delt cord nade by Lily mill.s Une can conbine the souare knot and half hitchfor interesting results these are fimbelts.

If one has an" 1 nqle $100 m^{n}$ or any devise for making two sheds one can weave warpnitace textures in belts wich can de most interesting in color ena ciesign; and branching our iuto "Pick-up" teconique, one finds mang deiightrul designsmost attractive in their texture.

Buckles and slides may be used for starting belts, or they may be made simply with fringes or tassels. A natband can be made to matrh a belt, or several belt widths can be sewed together to make a matching purse or bag. These narrow bands may also be used for sandal. straps or for bell pulls, upholstery,trim, tie-backs, shel.f edging or straps for wall hangings
Note_Mrs. Mcßulty has travelod in many lands stuaying tho bel twonves of va-ious rations. She dol:ghts nnew" torhn-ques and sharing them $w^{-t h} o^{+h} h e^{-}$.

As a form of self expression belt making is very satisfying women the world over have found it so From the gay colored belts of the Scandinavians to the fascinating storied belts of Mexico and Guatemala with their an imal and floral motifs belt making has long since claimed the devotion of many a ski1.1 ful craftsman Men excel. in making certain belt types Egyptian card belts and Inki.e belts made originally in England for wear ing suspenders Women the world over seem ${ }^{+} 0$ enjoy the making of all kinds of belts Bel* making is no confined to any one portion of the globe but is an international craft To become a belt expert is worthy the place of a Iifelong hobky auo will lure one intothe folk crafts of many peoples in many places Application of telt weaves

The sphore of belt weaving is almos ${ }^{+}$un limited and Decause of the usefulness and beautg of the many kinds of bel.'s, is found to be a desirarle craft for hobby rluos and for camps and school.s One great advantage is thêt del.t materials rost lit+l.e ano froulit the iavestment one call derive delts of fas cinating figurations anc colors stripes and plaids gemetric figures arrows crosses or diamonds ana bands points and chevrone. Some belt weaves also permit laid io designs.
Egyptian Care! Meaving
Thiscraft when used among voung people teromes an arsorning and en*er*aning rerat One ran fasteu the reflt lengtas to the postc of a porrn or to +ree trunks when workiog outdoors in sumertime. $T$ t is a inll.p p-ojor: for young folks to grout together for such an outdoor belt project.
Inkle Loom Wearing
This is possinly the easies+ of a11. The belt weaves Ooe puts on a new warp ror each Delt and rian therefor create evdless newr stripe aesizns lo meave one simply raises and depresses a taboy shed Desigus may he laid in Detween rows and one can even dfyelop a certaia ryne of lace weave as mall.
Diagonal Belts
These are made vitn no equipnent, fingets only. One loons the warps over a pencil. It is possiole to weave stripes, dianonds and points in shodes of color. This craft develops dexterity of the fingers and is an intriguing hoóby, and costs very litょle.
Mexican Braiding is a method of manipulating warps to form a mesh for head bands on hantocks. Its soft textured Del.ts appeal.
"Byway= in Handwea ing" $\$ 7.50$, desaribes belt types Inkle Loom Weaving, $\$ 1.50$ Makrng an Inkle Loom, $\$ 1.00$.

BELTS AND BANDS FROM OTHER LANDS
by Osma G. Tod

With the trend in fashions drawing us somewhat closer to our southern neighbors, belts from Mexico or Guatemala seem to wrap around one warmly with a neighborly feeling of international sympathy. We American girls and women will enjoy being lured into the economical and gifted finger mysteries of our tropical sisters, who for centuries have known how to apply themselves to braiding or weaving with so little equipment, and without even glancing in the direction of the gay yarns with which they work. All dilong the market places of Mexico and Guatemala one sees them, with a mere handful of garns tied to a post or building, making pretty things for thenselves out of next to nothing. We hope the pressure of our modern civilization and the demands of the tourists will not change the character of these valuable.finger crafts.

The bright striped bands made by the giris and women of southern climes, add up rapidly into scarves used for neck- or head-dress, and parses, trim for jackets, girdles and sandal straps. The type of braid they make may of ten be traced back to antiquity, - the braided belt technique shown here is said to be of Egyptian origin- but each generation has learned these skills from the generation before them. . More than all else, they inherit the ability to use and combine brilliant colors in effective ways.

Just one simple type of interlacing, as easy as the three-strand braid shown here, is all that is necessary to learn for making a wealth of products. The strips of belting require no backles of wood or metal for fastening; just functional tassels, braids, loops and ties of Whan are far more interesting and less expen sive. Long. yarn ends from the belts themselves are braided into fascinating little pig-tails; cut ends are plaited and turned back into attractive loops; huge tassels made of cut ends of odds and ends of yarn are slipped through the loops and clasped snagly around the waist; small braids of garn can also be made up into loops for jacket buttons, tassels for turbans, sandal trin, etc.

Three or four colors are used for 2 belt, and a ridth of from 1 to 3 inches is practical to make. Popular colors are red, blee and white, with a touch of black for as accont. Other good combinations are orange, Drom, ivory and gold; three shades of green, rith white or black foo contrast; rose, old blue, deep rine aed ivory; sky blne, navy, black, and white.

The braided strips may be seved together with stripes all going in the same direction, or two adjacent striped lengths be placed opposite, making spear-heads, as in the purse shown here. As for materials, the heavy cottons are just as good to work with as woolen yarns, provided they are rich in color. For very heavy bands one can use Rug-weave yarn or 4-strand; for a lighter weight, soft mercerized crochet cottons,Perle 3 or 5, or Mercerized 10-3. We11 spun and soft worsteds are excellent of course, such as Germantown, Tapestry yarn, and many beautiful yarns of medium weight. Always choose worsteds, which are made of combed garn strands and will not fray like homespan wool.

## HOW TO BRAID THE BELT:

To start a belt, cut strands double the desired length, add a loot for shrinstoe, fold each strand double, loop over a small round bar or pencil, as at $A$ in the figure. Make a design plan of stripes, follow darl with light strands, use different proportions if desired. Pull all ends even, then tie other end of belt to a post or table, B. Sit at right of belt tn braid, withstrands fairly taut.

## WEAVING THE ROWS:

Row 1: Hold strands with haids in position shown. With right forelinger, pass under and over each successive strand. The arrow marked Row 1 replaces finger in detail sketch, represents first row made. When finger has gone all across: slip twó left strands, C , through opening or shed jitst made, and pass them from left to riglit.For finer work, use only one strand for each. row; but the double strand is easier for beginners.

Row 2.: Start again at furthest right fodginnng with forefinger passing under and over two strands just brought through; that this time pass the finger OVER the strands it passed under before, and UNDER those it passed over, as in Row 2. When finger, has interlaced all across, bring two furthest left strands, $D$, from left to right through opering.

Alternate Rows i and 2. A design of dart diagonal stripes will appear against light ones, as at $E$. After each roi, gentiy puil aut the two strands just brought through from left to right, in, and free them from


BELTS AND BANDS FROM OTHER LANDS. Page 2.
tangling. with other strands of belt. After a time, untie knot at end, separate all strands with the fingers and proceed. It will take some time to train the fingers so that they will not feel awkward. Do not give up, for when you finally master both holding a belt, and weaving the strands between the fingers, one traly enjoys a very fascinating feeling.

## FINISHES FOR YARN ENDS:

Loops and Braids:
To make a large impressive loop, group all ends into three bulky strands; braid them, as at $G$; fold back; tie with small braids, at $H$. Slip belt through. Make a collar around the other end of belt,J, using several colors of yarn for stripes. Now group the four colors of yarn, and braid into tight pig-tails with tiny collars at ends, K.

FINISHES FOR YARN ENDS- Continued Tassels:

To make a big tassel, cut six to ten strands of each color, double length of desired tassel. lay flat along end of the braid, with end just below their center, as at L; tie with a stout cord.

Now fold over the upper half of the strands, leave 1 inch free for a head, as at M. With a contrasting color, make a coillace $\frac{1}{3}$ " or more wide, wrapping the garn around all strands; fasten securely, as at N 。

It is intriguing to work with yarns and to try out different braids, knots, tassels and finishes. Take time to experiment and to find out what finishes show up your braided belts to the best advantage.

## COLOR PLANS FOR BRAIDED BELTS

1. LARGE WIDE BELT WITH TASSELS:

Choose 4 colors. Cut strands $120^{\prime \prime}$ long. Folded this gives $60^{\prime \prime}$ for braid.
Color 1. Barkest color, such as black. 12 strands.
" 2. Dark Color, Navy, 12 strands.
" 3. Medium Color, Red, 12 strands.
" 4. Light Color, White, 12 strands.
Place these colors on bar in following order: Color 1, 4 strands; C.2, 12 strands; C.1, 4 strands; C.3, 12 strands; C.1, 4strands; C. 4 . 12 strands. Leave 3 inches unbraided before starting braid. Leave 8 iiches unbraided at end. Make a tassel at each end, adding 8 strands of each color.
2. NARROW BELT;

Choose 4 colors. Cat strands 120" long. Folded this gives 60 " for braid.
Color 1. Accent color, ( such as dark brown) 6 strands.
" 2. Dark Color, ( hennal 6 strands.
" 3. Medium Color, (yellow) 6 strands.
" 4. Light, Color, (ivory) 6 strands.
Place these colors on the bar in the following order: Color 2, 6 strands; Color 1, 2 strands; Color 3, 6 strands; Color 1, 2 strands; Color 4, 6 strands; Color 1, 2 strands.

Finish with braids or tassels.
3. SMALL BAND:

Choose 3 colors. Cut strands 120" long. Folded this gives $60^{\prime \prime}$ for braid.
Color 1. Dark, ( such as blue) 8 strands.
n 2. Medium, (such as red) 10 strands.
" 3. Light, Isuch as white) 10 strands.
Place on bar in following order:
Color 1. 4 strands; Color 2, 10 strands;
Color 1, 4 strands; Color 3, 10 strands.

## ATTRACTIVE BELT CLOSINGS

One can make woven part of belt just the right size to go around waist, then fasten it by tying each end-tassel to opposite tassel. This makes a tassel spray in front.

One can also put belt ends through colorful belt buckIes of wood, plastic cirales or yarn wound forms, - as at 0 .

One can also simply make a loose knot of yarn ends in front, or tie like a necktie.

## SANDALS

In making sandals, braid narrow bands to go back of the heels, and wider ones to go over the instep. Stripes can go same way or opposite in the two sandals. See $P$.

## PURSES

In making purses, attach strips is diage onal lines running in the same or opposite directions for different effects. See Q.
HOW TO MAKE A PURSE OF NARROW STRIPS
Use any of above belt designs, cut short strips of finished bands $\gamma^{\prime}{ }^{\prime \prime}$ long, enough to make piece $8 \mathbf{1}^{\prime \prime} \times 11$. Fold donble into size 5 ${ }^{\text {nu }}$ x $8 \frac{1}{2}$ ".

First make lining of buckram covered with satin, measuring when finished $5^{\prime \prime} \times 8^{\prime \prime}$, ito
 cast purse at two side edges; press down top edge that will hold zipper. Slip in lining; baste. Attach zipper between lining and purse. Blind-stitch the zipper tape beneath the lining.

One can also use snaps across top for a fastening, just inside opening and between opposite sides of lining. Choose a colort for lining fike one of belt colors.



There are many devices and small appliances for weaving which may be used in a weaver's studio in addition to the usual table and foot looms. These have many advantagen. They are usefil for experimental purposes. They are inexpensive and easy to make. The principles involved are the same as in the larger looms, so that even children who do this work in schools, get some 1dea of how their clothing and the rugs and furnishings they see about them are made. Adults who have no looms at home or have no room foz .em often find they can get pleasing and satisfying results by using these simple types of looms. As for Occupational Therapists, they are indispensable, as they take up little room, use up little material, and are easy and light to handle. Bed patients would find them especially useful.

With these small appliances, pleasing and harmonious colors, designs and textures, as well as a high standard of workmanship, are as impor tant as on the regular looms. Below are both descriptions and diagrams of various types of these amall weaving appliances that have proved useful in schools, hospitals and homes. As one experiments in this field, other types of simple appliances will suggast themselves.
1.THE RIGID HEDDIIL LOON, or TEER DEN LOOM: Fig. 1.

This loom is so called because it is made of tongue depressors. It is one of the simplest and easiest types of two-harness belt loom to make. Very attractive and colorful belts can be made on it, to be used with sport costumes. It is possible to make this cype of loom by using tongue depressors. Directions were also written by Sarah L. Patrick, "The Tee Dee Loom".

2. BELT LOOM MITH STRING HEDDLES. Fig.2.

A variation of the Tee Dee Loom is made by using string heddles instead of the rigid heddle. Both these looms are used by the American Indian
and many other primitive people. The string hed die loom can have more intricate designs, since more than two heddles may be used. See Flg. 2.

3. THE INKLIT LOOM. Fig. 3.

The Inkle Loom, which probably originated in Scotland, is another two-harness loom. With which one could spend many happy houra. On this can be made not only simple belts with the dosign in the warp, but also the most elaborate designs such as are made by the people of Equador, Bolivia, Chile, Peru, Guatemala, Mexico and many of the European peoples. The colonists may not have had this loom here, but they did have the belts or tapes which were called Inkles, and pedlars used to carry these among their wares. A great variety of threads may be used with the Inkle Loom. It is not necessary to have them of the same grist. A very good booklet on the Inkle Loom is available at the Osma G. Tod Studio, "How To Weave on the Inkle Loom, "\$1.25. (Address on Cover!

4. CARD WEAVING, Fig. 4.

Belts are made with cards, or "tablets" as the English call them. Card wearing is done by many European people. It has also become popular in this country. It is considered of great value in Occupational Therapy work. Very attractive narrow fabrics can be made with cards. The narrow strips of card weaving, as well as those of other belt looms, may be sewed together to make wider fabrics. The weaver can both make up patterns, use some of the patterns given in books of direction, or warp the cards

all together and then work out designs creatively. The little pamphlet by Berta Frey put out by the Industrial Arts Cooperative Service, and called "Card Woven Sampler" ", shows this method, (\$.35) . There is also a bcok by Mrs. Atwater that is good,' "By-ways in Belt Weaving", $\$ 8.50$.

5. SIMPLE FRANT LOOMS. Figs. 5 and 6.

There are looms made on smail frames on which useful and attractive articles can be woven, such as bags, mats, etc. The simplest type is a frame with nails at each end. Figure 5, A. The warping is done around the nalls. This twoharness loom has a heddle and shed stfck. Heddle cords are made by hand by looping around a rod, as show in Figure 6. Many interesting types of weaving can be worked out on frames of this type: tapestry, laid-in, brocades, open work, in fact anything that can be done on a two-harness loom. There is a pamphlet on this type by Sara I. PatFick, "Teaving on a Simple Frame Loom"." (\$.35). A loom of this type can be made from a box. See also directions for making a box loom, Joy of Handweaving, Osma Gallinger Tod., Chapter 15.
6. ORIENTAL TYPE LOOM. (Not illustrated.)

A little more advanced type of loom is the Oriental Type, on which can be made not only Or iental rugs, but the Scandinavian Rya, Flossa, Hoelf-Flossa, also the Spanish rug with its one knot and Oriental Soumak, One can see the method of threading this loum with loops for raising warps to make a sked in Figure 6.
7. PRIMITITE WWO-HARNESS LOOM, Fig. 7.

This is a twowharness loom with string hedm dle and shed atick back of it. The marpinis is done around a dowel, so that when the dowel is pulled out the fabric lies flat. Many primitive people use this method, e.g., the Salish I":lans of the Northwest.

FIGJRE 7

8. CARIBOARD LOOM FOR BAGS, MIgs. 8

Bags can be made on a cardboard loom. This is done by placing pins at one end and then warping around the pins. Twills, brocades and other types of weaving can be done on this loom. Plas are inserted as at $\operatorname{Fig} .8$, A; the warp wound as at $h_{1}$


9. TVINING OR WATTLE WHAVING, Fig.9.

Another loom for bags can be made, similar to those of the Ojibway, Menomenee, Fox and Sauk. This is not true weaving but a process gimilar to basketry. It is a twining or wattling process. A pamphlet called "Twining or Wattle Weaving" by Hlizabeth Courtney,* gives very good directions for this type of weaving.

FI GURE

 A most interesting type of fabric is Greak Soumak, which was introduced into this country by Lr. Joldes. It is similar in appearance to tapestry, as It is a weft-face fabric with ver= tical ribs. But the process of making the fabric is not the same. It is a knot made around one warp thread, and done on the wrong side. It is warped in a 19 gurem around a frame. The best frame is the canvas stretcher. The warp is flattened by maving in a few weft threads at each end.

II GURT 10


Note:
This loom can be made at hame; or one can use a picture frame.

11. INDIAN BRLT LOOM. Fig. 11.

This loom can be made by hand. It consists of two long bars, two cross bars and a tension bar slung between the sides of the frame in such a way that it can be drawn taut or loosened and this regulate the tension of the warp threads. An Indian Belt Loom is excellent for use as a light lap loom in schools, camps and hospitals. Direo tions are available in Folio, "Indian Belt Feave", Osma G. Tod Studio, 504.

## 12. BRAID-TEATE ON A BAR. FIg. 12.

This method of braiding with the fingers dates back to Egyptian days and is done in many countries today. The warp strands, usually aro ranged in stripes of several colors, are fastened to a dowel or pencil, and either single or double strands are interlaced in and out of other strands. The ends are braided in unique ways to make fringes or tassels to finish these woven belts and bands. Narrow strips are sewed together to make wider pieces of fabric. The famous Canadian technique of the Assomption Sash is do veloped on this principle. Directions in folio, Creative Crafts Osma G. Tod Studio, 5uc.

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# INDIAN CELT WEAVE 

## CONSTRUCTING LOOM. PLACING TENSION BAR

This Indian Belt Loom is excellent for use as a light lap loom in schools, camps and hospitals. It weaves up to $6^{\prime \prime}$ Wide and makes belts, hat bands, curtain tiebacks, pouches, bell pulls, bag handles, sandal straps, and narrow strips to be sewed together into wider widths.

## CHOICE OF HARP:

The warp is a wraparound type, and when a portion of it is woven, is gradually drawn around to the front while the finished portion goes to the back. The warp may be all one colorbit for best effects two alternating colors are used, As one shed is made, the threads of the first color come to the top; and as the other shed is made, those of the second color come to the top. The change of color makes it easy for beginners to distinguish between the sheds, and when woven the alternate warps provide an attractive mottled texture.

The second color, too, makes possible a pick-up technique for the making of figures in one color against a background of the second color.

The material when woven is a warp -surface material, there being no reed to keep the warp threads apart. One sets the warp strands close together. This is the type of material that is produced most frequently by primitive methods.

## CONSTRUCTION OF LOOM:

The loom consists of two long bars, 1 \& 2, two cross bars, $3 \& 4$, and a tension bar, 5.

Bars 1 \& 2 each measure: $1 / 2^{\prime \prime} \times$ lina $_{\text {㪯 }} \times 36^{\prime \prime}$.
Bars 3 \& 4 each measure: $1^{\prime \prime} \times 1^{\prime \prime} \times 8^{\prime \prime}$. Plane off sharp edges to make these bars somewhat octagonal in shape. Dowels l" diameter may also be used.
Bar 5 is a $1 / 2^{\prime \prime}$ dowel , $7 \frac{1}{2} "$ long.
Round off bars l \& 2 at both ends. Sandpaper all parts smooth.

Nail bars 3 \& 4 to insides of long bars, 1 \& 2, using four $l^{\prime \prime}$ nails, as shown in sketch at lower left of page. These cross bars are set in, about $l^{\prime \prime}$ from ends of long bars.

Tension bar, 5 , is slung between the sides of the frame, about $5^{\prime \prime}$ from Bar 3. Bar 5 is slung in such a way that it can be drawn tighter or loosened, and thus regulate the tension of the warp threads. To bring new warp to the front of the loom, one simply loosens Bar 5 , then moves warp around, and tightens bar again, drawing it a bit closer to Bar 3. .



In the Indian Belt Loom, the warp threads move closely together, so ithe weft does not show. Therefor add stripes in the warp for color offects. The simplest striped effects use alternate colors.


## 




HORIZONTAL STRIPES IN WEFT,A. Simple Tably Weave. At $A$, all the odd numbered warp threads, 1, 3, 5, etc are light, and the even, $2,4,6$ etc., dark. Then lst shed is made, all light thds, up, we get light row No. I, when weft is put through. Then 2 d shed is made, all dark thds.up, we get dark row, No.2. By thus alternating, we get a series of stripes.

DARK BORDERS AT SIDES, B. To produce dark outlining borders at sides, $B$, one uses dark thds, in warp only for short distance at sides, putting dork on $1,2,3,4$, $5,6,7,8$, then proceeding with thread No. 9,1 ighti 10, dark, etc. all thru center; then dark for last 8 thds. This weaves up like A but with dark edges.

ALTERNATE CHECKS OF COLOR,C. To produce alternate checks of color in each row, add an extra dark thread at arrows. This shifts the light throads to the opposite shed. At any point in the warp where an oxtra dark thread is added right beside the reg ular dark thread, tht staft occurs.

VROmy cept that after each Hlight and, dark warps, fivo dark Farps in succession are added instead of just one dark. This keeps the light marps in the same shod, or in continuous columns.

DARK STRIPES IN WARP AND CHECKS BETWEEN.
Eis ilko D except that after each 4 light and dark warpe. $\infty$ six dark warps in succession are added instend of the one dark which would be used for a straight alternation. This shifts the light marps to the other shed. thus producing checks like C.

## 



Picking Up Design Thread
A. WARP OF ALTERNATING COLORS. A warp of two alternating colors, dark and light, gives best results on the Indian Belt Loom. In the foregoing directions, Fig.II, Bar 4, two balls of thread are shown being warped. Make these of contrasting colors. Since the cord heddles pick up alternate warps, as at $G$, all light threads came up on one shed, and all dark on the other. For speckled effect, A, use one weft only.
B. PICKING UP WARP THREADS FOR DESITNMS. An ancient method of obtaining design in weaving is shown at C, D, E and F on this page. The warp must be of two contrasting colors, alternating. One picks up the desired warps from the lower shed level and adds them to those in the upper level. Since these are of contrasting colors, they show up in a design. It is as if one slipped a shuttle under a skipped warp, making a purposeful mistake. The omitted warps, left out of their regular shed, have a chance to show for a space. The pick-up is done on the first tabby shed; the second tabby binds down the picked- up warps. Simply alternate the tabby sheds, with pick-up on the first.
C-F. METHOD OF WEAVING. All the picked up warp threads appear on the same shed. Call the shed with light threads up, Shed No.1; Call the shed with dark threads up, Shed No.2.
Weave: Row (a) See D at left. Start with Shed 2, darks up. Weave tabby.. Row (b), lioht threads up. Use design at C or D for pick- up. This starts with a thread at center of design. Find the center dark warp on lower level; bring it up then through opening made with fingers between its adjacent light threads, as at F. Hold it up; weave through.
Row (c) Shed No.2, weave tabby.
Row (d) Shed No.1. Find dark threads in lower level at either side of center thread last picked up. Bring each one up between its adjacent light threads; Weave through.
Continue thus. Counting center thread as No. 6 in design at E , which has 11 threads, first pick up 6 alone, then 5 and 7, then 4 and 8 , then 3,6 and 9 , (fepuis of second diamond at center) To make cross-stitch designs easy to follow, change them to the type pattern shown here, with every other check shaded. One can thus moke belts, bags, sandal straps, pouches.


Flower Basket Design


Pouch and Strap


Belt Design


## MESH-WEAVE OF THE MEXICAMS



Desica 170.1.



This mesh-meave forms a texture that is fleadble and opens up, when drawn apart, like a net. It works up into most attractive girdles, pouches, mesh hats, hair coveringe, sashes of any width or net bags. Tro or more colors are used to bring out the texture lines.

EQUIFMENT NEBEDED: I. Rod, dowel or pencil, $1 / 4^{\prime \prime}$ to $3 / 8^{\prime \prime}$ thick to tie warps on. 2. Fine applicator sticks or rods 1/16" to $1 / 8 i 1$ thick to push back woven rows. 3. Material for heavy belt: Ifly's Rug weave yarn or 4astrand filler.

For finer texture: Hughes Famcetts $3 / 2$ perle cotton in colors.

For a belt, make a starting width of 2 to 3 inches; for a head net, 'l $^{\prime \prime}$ to $8^{\prime \prime}$.

PREPARATION OF MATGRIAL: Cut longths of yam twice as long as needed. For belt of rugweave yarn, Design No. 2 shown be low, measuring $2^{\prime \prime}$ wide, arrange on rod: 2 dbl.strands dark; 4 light, 4 dark, repeat from * once more, add 4 light, 2 dark.

Loop yarns at their conters, slip over bar as at Tigure 1, A. Label separate warp strands of each pair: $1 a, 1 b ; 2 a, 2 b$, etc.

METHOD: Run right forefinger under and over successive single threads, as at $B$ for 3 or 4 rows. Fan a yarn through, like warp or finer. This makes in-andmout weave and gets the warps evenly arranged for interlaco ing. The design shows the vertical rows of warp color, C. For last row of this weaving, the warp at furth est right, $D$, arrow, must lie over the weft.

From now on we use no veft yarn, but the entire belt is made by the interlacing of the warps. Run the finger under and over successive Warps finc one more rov, put stick in as at E. This is the Foundation Bar, end should pass OVER furthest varp thread at right. Weavo ogeinst this bar; it is NOT a row of reegu lar belt weave. It could also be inserted at the start without the section of Plain Meave, C.

FIRSI ROW OF WEAVING; We are now ready to interlace the warps in typical meshoweave-technique.-



Figure 2. Adjusting Strands at Sides. Meke the above adjustments after lst rom and every other row therafter.

FIRST ROT OF WEAVING: Figure 1, A-E.
For first rov of weaving, interlace right forefinger thiough the warp threads, as shown at Figure $1, B$, going all across warp to prepare shed for first row with insertion of bar, $F$.

From position at F, bring all the warps that lie over foundation bar, E, downword and out to right side; and those that lie under bar, downward and out to left aide. See diagonal trend of warps coming from foundation bar, $E$.

Start interlacing at right side, with the pirst two warps that lie over the others. These are 1 lb and Lb . 山ay right forefinger over these; then carry finger UNDER first warp that was under foundation bar, now trending toward left, la. OVAR next strand that was over foundation bar, UNDER next strand that was under, (2a) (30). OVAR next atrand that was over, (4b)
UNDER next strand that was under, (3a) otc.all across warp.
The rule is: With marp threads that were over bar in last row taking right trend, and thase that were under bar taking left trend,pass rifht forefinger OVAR first two at right, then continue to left, under a single, over a aingle, under a single, over a single, etc.all across warp to left side.

The course of the warp threads is as followa: Each upper warp, such as 2 b , goes downward, over last rod, over next two warps to the right, and down uncer finger,i.e. next rod.

Each lower warp, such as $2 a$, goes downmard under last rod, under next two marps at the left, and down over finger, i.e. next rod. Push new rod back ngainst former rod as firmly as possible。

ADJUSTING STRANDS AT SIDES. Figure 2, AF.
LEFT SIDE. At end of row at left side, the finger goes under the last two marps at left that had a left trend, Fifure 1, F; and Figure 2.d. Take outermost warp strand, shaded. This has fust passed under foundation bar and over the finger, siaded line, B. Lift it up, as at $C$, lay it OVER last rod and bring it downward at left side UNDER the fireer. Fut rod in to take place of finger, as at C, daritbar. Dotted line shows nev position.

RIGHT SIDE. In the same Way, the finger coes over the last two warps at right that had a right trend, as at Figure $2, D$, see also Figure 1, F. Transfer the weaving from right to left hand, as at D. Take outermost warp strand, shaded. This has just pessed over last bar and undar the finger, shaded line, E. Lift it up, as at $F$, lay it UNDER last bar and bring it dommard at right side OVER the finger. Fut rod in to take place of finger, as at Fudarisaro Dotted line at $F$ shows new position.



Figure 3. Row 2, Siac Alfustante.
Osma G.Tod Studio
319 Mendoza Avs. Coral Gables, Fia.

SECOND ROW OF WEAVING: Figure 3. ACC.
In this row, as in the first row, alsc true of all rows of this weate, the interlacing is done with the right forefinger, and the direction is from right to left. . i.e. the finger always starts at right side and works toward the left.

In this row, wa reverse the trend of the warps, so that-the warps that are visable. on upper surface, have a trend to the loft dommard, instead of to the right and then downard, as in first row.

Take the warps that lay over the bar in Row $1 ;$ carry them out and down to the left: (\%ig. 3, errow A) ; carry those, that lay undor the bar, out and dom to the right, ${ }^{-}$ (arrow B. Start with right farefinger, weave to the loft, arrow C. Put finger under last two warps at right, (these mere under bar of Row 1), then over first warp, (that was over. then under a single, over a single, etc.all ncross to loft. At left side the finger passes over last two warps, (these over bar in Row 1.)

The course of each warp is as follows Each uppor warp, such as $1 a, 2 a, 3 a$, etc. (i.e those that were over bar in Row 1) passes down to left, over next two warps at left, and down under the finger.

Each lower warp, such as $2 \mathrm{~b}, 3 \mathrm{~b}$, etc. (those that viere under bar in Row 1) passes down to right, under next two warps at its right, and down over the finger.

Release finger, put in rod to take its place through shed just made; push rod back against former rows as close as possible. Rod at C,arrow, takes the place of finger.

ADJUSTING STRANDS OF ROT 2 NT SIDES: DG.
At left side, finger goos over last two warp threads, as at D.Take outside atrand that passed ovor the bar and under the fingers bring it under bar of Row I and over the finger, position shown at $D$ and $E$ dotted linos, arrpws. Fut stick through shod

At right side, finger goes under two warps at furthest right, as at F. Transfer the cross to left hand. Take outside strand that passed under bar of lest row and dver the fingery bring it over the last bar and under the finger, position shown at $F$ and $G$, dotted lines,arrows. Fut stick through shed.

Seep ropeating Rows 1 and 2 in altermation. Ber of Row 2 now takes place of foundation row first put in.




## EELT WEAVING THE HUNGABIAN WAY



Ho matter how many interesting kind of things one knows how to meke, the lure of belt weaving will always fascinate us, for it produces a necessary bit of wearing apparel, and belts are made with inexpensive equipment and little effort. Neaving a belt the Fungarian way on a small board is one of the simplest of processes. The loom may be made by hand.

MATERILLS REQUIRED: Jor the belt, some hoavy yarn like Germantown, or tufting cotton. For the loom, a small piece of board and brads.

MAKING THE LOOM. Cut a piece of pine or plywood, $8^{10}$ long, $4^{\prime \prime}$ wide and $\frac{1}{2}^{\prime \prime}$. thick. Place seven brads $5 / \mathrm{g}^{\prime \prime}$ long across narrow end, $3 / 81$ apart and $I^{\prime \prime}$ from top edge. For side brads, start ${ }^{\prime \prime}$ below last brad of top row, keep in line with it, then nail ten brads at each side, 3/8m apart. Leave brads extending $3 / 8^{\prime \prime}$ above board.

WeAving the beit. Cut 28 strands of yarn twice as long as the distance around your waist. Knot strands together in groups of four. Place each knot over a brad at top of loom, as at A. By using two strands of one color and two of another in each group, a striped effect will result. For another effect, alternate a group of four strands of the same color with a group of four of contrasting color.

Weave Fith a strand of yarn for the "weft" or the thread going from side to side; this should be the same color as outside strands at edges of belt. Wind weft into a small skein, B. Tie a knot at its other end and fasten to first brad at left, C.

First Row of Weating: Pick up the two middle strands of each group, hold them high and pass weft beneath them all the way across. It is a good idea to lift up all the middle pairs before weaving the weft through. Now pass weft around the brad at right, D.

Second Row of Weaving: Pick up the two strands of each group that were under the weft in the previous row, as shown by dark strands at $\mathbb{F}$, (see detail in cirm cle at base of loom). Bring these up between the other two strands. Lay them back over the top of board so as to have them out of the way. Do this to each pair of strands at outside of each group all the way across, then pass weft across in this next row, as at J. Pass weft around next brad at left as shown at $\mathbf{F}$, upper left of drawing.

## In each succeeding row bring the two strands

 that were on the OUTSIDE of the group and UNDIR weft of preceding row, up between the other two threads, so that they will now be OTER weft in row being woven.If the strands of yarn are over a yard long, it is a wise plan to pull them entirely out of the mass of warp threads, at every second row or so. This will keep the belt threads from tangling and make the work pieasanter.
(n)

## THE WHITE BELT WEAVE <br> Helen L. Allen

This handsome technique, worked in shades of white in unusual texture effect, is used on wide belts woven with coarse materials. It is a very old technique, found in sections of Mexico and among the Indians of the Southwest. The latter are beginning to mix their techniques, and we find a technique of one country adapted by another, with a new type of design grafted on it. Thus in the White Belt Weave we have a hiorid technique, - the old White Belt Weave of the Indian ceremonials combined with the Reserve Technique of Mexico. This refers to a "reserve warp" or a jump in the weft at the back of the loom made possible by the use of a pick-up stick. One single skip looks as if it were a mistake, and in this stitch one might say that the weaver deliberately makes mistakes which eventually make a design. This weave is good for purses; pillows.

Effective as it is, the White Belt Weave is extremely easy to do. Characteristic designs are formed by using geometrical formations and making these with the use of alternating skipped warps, as shown in sketches below. One picks up every other thread or every other paid of threads, or every fourth thread, etc.

Warp Plan:
Thds. per int 24 Width: 8 inches Total threads: 192 Varps $8 / 4$ carpet Weft: $8 / 4$ used aingle or double. Pack the latter firmly for a heavier fabric:
A. Cord prahed back to beater.


Weaving Plan: Thread to tabby on a 2 -harness or twill on Tabby: 183; 284 Dosign for Plckeup

Step 1. Treadle 284, pick. up patters with pointed stick. Ran a hoavs cord, 1/4" diamoter, under pickod up portion. Push cord to back, as at A.
Step 2. Finn weft through the 284 shed, giving plain weave in all parts except where pick-up is.
Stop 3. Chonfe to 1\&3. Funn weft throuch, Pull out cord. Stop 4. Tr. 264 ready for Stop 1 again. Pick up noxt row. Heavy cord does not intorfore mith beatinc.



PAGE OF SOUTH AMERICAN DESIGNS FOR DOUBLE WEAVE, LENO, PICK-UP METHODS
These designs are useful in weaving towels, runners, panels and mats, as well as belts. They can be worked out in Laid-in and Laces. They are typically Mexican and Peruvian. The fish design would make a beautiful rug in Soumak, tapestry or pile.


Fish Design: Cr"rtesy Museum of Natural History, N.Y.C.





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## ALL ABOUT THE INKLE LOOM

The Inkle Loom is an English devise for weaving narrow bands, such as garters, suspenders, belts and guimpe. It is a craft of ancient days, and as quaint and entertaining as it is easy. The weaving is the simplest type, done by raising and lowering the warp threads with the fingers.

In Anerica the Inkle Loon craft becoues a delightful hobby. It is good recreation
to use in suruer canps, or at home on the porch or in the garden. The loon is light and way be carried back and forth, put in the car, or taken to hospitals to entergair convalescents. It is an excellent way or learning to weave in schools, forthis loom is actually a narrow 2-narness loom.

Articles of greater width are mace by joining several narrow strips together.


## THREADS TO USE

The material woven is called a "warp-face" cloth, with warp only showing. This is the primitive method is which no reed was used and the warps gradually narrowed down until they touched. Since no weft shows, all of the design occurs in the warp, and one must plan effective stripe arrangements.For weft choose a color similar to the selvage of the warp, since it shows when reversing. COARSE TEXTURES

Cotton: $3 / 2$ or Perle 3 (Lily, Fawcett) Linen: Linen Floss, (Hughes Fawcett )
Wool: Germantown or 3-ply (Hodgson)

## MEDIUM TEXTURES

Cotton: Perle 5 or 20/6 (Lily; or Carpet Warp, (Fawcett, January Wood )
Linen: 20/2 Linen (Fawcett, Lily )
Wool: Sport Yarn, ( Hodgson, Lily ) or Medium 2-ply(Edgewater)

## FINE TEXTURES

Cotton: 10/2 Perle or Un-merc. (Lily) Linen: 30/2 Linen (Hughes Fawcett) Wool: $2-\mathrm{ply}$ Weaving Wool (Hodgson) or Weavewool(Lily) or Fabri (Bernat)
WHAT YOU CAN MAKE

Belts
Bell Pulls Suspenders Sandal Straps Skirt Straps Luggage Straps Hat Bands Watch Bands Bag Handles Book Marks Purse Straps Lamp Trim Uphols.Guimpe Pouches Shelf Trim Tassels Cinches Tie-backs

## INKLE LOOM SILPPLIES

Table Inkle Looms, Lily Mills, Shelby, N. C. with Instruction Folder, $\$ 7.50$
Folio, How To Make Your Own Inkle Loom, Osma G. Tod, see address below, 60
Inkle Loon Belt Shuttles, -nicely finished in 1ight woods, Osma G. Tod,- 75
Book, Inkle Loom Weaving, Harriet Tidball order from address below, \$2.60 Complete directions, many patterns.

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